AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (allowed) A nano-calcium phosphate/collagen composite, comprising collagen molecules and nano-calcium phosphate, wherein said composite comprises agglomerated particles having a diameter of 5-50 microns, wherein the agglomerated particles comprise a multiple laminar structure having periodically repeated units, each periodically repeated unit having a thickness of 10-15 nm and consisting of a layer of calcium phosphates and a layer of collagen.

2. (allowed) The nano-calcium phosphates/collagen composite of claim 1, wherein the collagen is type I collagen.

3. (allowed) The nano-calcium phosphates/collagen composite of claim 1, wherein the weight ratio of nano-calcium phosphates to collagen molecules is between about 2.2 to about 2.8.

4. (currently amended) A process for preparing the composite of claim 1, comprising the following steps:

(a) dissolving collagen gel in acetic acid, then adding aqueous solutions of sodium phosphate and calcium chloride, wherein the weight ratio of Ca:P is between 1:1 to 1.67:1;

(b) adding in drops sodium hydroxide solution until the calcium phosphates start to co-precipitate with collagen;

(c) maintaining the solution of step (b) at a neutral pH and incubating the solution at 30° C for 1~5 days; and

(d) harvesting the composite by centrifugation, freeze-drying and grinding into fine powder.

5. (currently amended) A porous ~~bone substitute or tissue engineering~~ scaffold for use as a bone substitute or in tissue engineering, comprising a complex of the composite of claim 1 and poly(lactic acid) or poly(lactic acid-co-glycolic acid), wherein the weight ratio of said composite and poly(lactic acid) or poly(lactic acid-co-glycolic acid) is between about 3:7 to about 1:1, the porosity is about 70% or more and the pore size is about 100-500 microns.

6. (currently amended) The scaffold of claim 5, further comprising noncollagenous bone matrix proteins~~, such as~~ selected from the group consisting of bone morphogenetic protein, ~~and~~ bone growth factors ~~as well as multiple~~ and glycoproteins that can promote cell attachment and spreading.

7. (currently amended) A process for preparing a porous ~~bone substitute or tissue engineering~~ scaffold for use as a bone substitute or in tissue engineering, comprising the following steps:

(a) dissolving poly(lactic acid) or poly(lactic acid-co-glycolic acid) in dioxane to a final concentration of about 2.5-15%(w/v), then stirring the solution gently for about 4 to 6 hours;

(b) adding the nano-calcium phosphate/collagen composite powder of claim 1 with a ratio of composite: poly(lactic acid) or poly(lactic acid-co-glycolic acid) of about 3:7 to 1:1;

(c) ultrasonicating the solution of step (b), then pouring the solution into a mold and freezing at a temperature between 0 to -20°C overnight; and

(d) transferring the frozen molded ~~scaffold~~ solution into a freeze drying machine to remove dioxane to obtain said scaffold.

8. (currently amended) A porous ~~bone substitute~~ scaffold obtained by the process of claim 7.

9-10. (cancelled)

11. (currently amended) A method of treating bone defect or bone fracture, said method comprising administering to said bone defect or bone fracture an effective amount of a scaffold according to ~~claims~~ claim 5, 6 or 8.

12. (currently amended) A method of culturing osteocytes, said method comprising providing an effective amount of a scaffold according to ~~claims~~ claim 5, 6 or 8 for culturing osteocytes.